

-8-

REMARKS

This communication is in response to the Office Action mailed on July 13, 2005. In the Office Action claims 1-20 were pending of which all were rejected.

The Office Action reports that claims 1-20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. patent no. 6,246,981 to Papineni et al. (hereinafter Papineni).

Claim 1 has been amended to recite a man-machine dialogue system comprising an interactive computer system with: an input device for receiving speech input from a user; an output device for generating output to a user; an object system which is an information source or store, or a command and control device, the object of the dialogue being to interface between this system and a user, wherein the object system further comprises knowledge sources to assist recognition; a dialogue manager, which controls the dialogue between the object system and a user comprising: a dialogue specification applied to the speech input from the user during recognition comprising: a set of augmented transition networks (ATNs), having a set of states, wherein each state is one of a question/answer cycle, data processing, a simple junction, and a sub-dialogue state; one or more tokens propagated through the states, each token comprising a set of fields which together define a current state of belief of a dialogue controller, dependent upon the preceding user-system interchanges and information obtained from the object system. [emphasis added]

Claim 1 has been amended to clarify that the object system includes knowledge sources to assist in recognition. It is respectfully submitted that this feature is supported in the Specification at least at page 13, lines 9-17. Thus, knowledge sources that include, for example, a user's home city can be used to assist speech recognition. It is believed that Papineni does not teach or suggest using such knowledge sources to aid recognition. Instead, it is believed that Papineni discloses a

-9-

speech recognizer (e.g. speech recognizer 20) that is conventional such as based on an acoustic model but not believed to access other knowledge sources to aid in recognition.

Amendments to claim 1 also further clarify that each state is one of a question/answer cycle, data processing, a simple junction, and a sub-dialogue state. This feature is believed to be supported in the Specification at least at page 6, lines 9-12. At each state a token can be received, modified, and forwarded as specified in the dialogue specification. Thus, a token contains the history of the dialogue at each state.

Finally, claim 1 clarifies that the dialogue specification is applied to the input speech of the user during recognition. It is noted that the present inventions relate to semantic classification statistics (See specification, page 11, lines 8 to page 12, line 10). Thus, in the present inventions a person's semantic pattern of speech can affect the acoustic likelihood of information he or she is conveying. For example, users often confirm information by repeating it in the same or later utterance. Thus, such confirmation can be used to determine acoustic likelihoods, which are then propagated with the tokens.

Papineni discloses natural language task-oriented dialog manager including conversational system 4 with a hub/spoke system for moving information from a user to the task-oriented dialog manager. It is believed that each task to be performed, such as buying a certain amount of stock, is represented by one or more "forms." Each form includes "slots" that must be filled out in order to perform a task. [Col. 9, lines 1-6] Slots are filled with attributes and/or values such as "FUND-BUY" and "\$1000". Preferably, the Papineni responds to declarative statements by the user. [Col. 8, lines 66-67]

Further, as discussed in the previous amendment it is believed that language understanding unit 30 is separate from dialog manager 40. Thus, it is submitted that Papineni's user

-10-

input is processed by language understanding unit 30 (e.g. by a statistical parser) before a representation of the user's statement is forwarded to dialog manager 40. [See Col. 8, line 19-26] Individual words or groups of words are tagged with tags such as "null", "buy", "fund-buy" in order to understand or represent a user's request or declaration. [See Col. 8, lines 38-45]

However, in the present inventions as recited in claim 1, understanding of a user's input statement, typically an answer to a question from the system (See Specification, page 5, lines 24-26) is placed within the dialogue manager (not a separate module). The dialogue specification is applied to the speech input from the user during recognition as recited in claim 1, not after. Thus, in the present inventions the speech recognizer performs the parsing necessary extract knowledge from the user's input. It is believed that such parsing during speech recognition is advantageous because it eliminates substantial post-processing parsing used in many prior art systems. (See Specification, page 9, lines 25-31) Finally, it is believed that the present inventions in accordance with claim 1 provides a less complex dialogue system that is modular and thus easier to implement and trouble-shoot than prior art systems.

In light of the foregoing, claim 1 is believed to be patentable over the cited art. Claims 2-14 depend on claim 1 and are believed to be separately patentable. Reconsideration and allowance of claims 1-14 are respectfully requested.

Independent claims 15 and 16 have been amended in a manner similar to claim 1. Remarks relating to claim 1 are herein incorporated by reference. Claims 17-20 depend on claim 16 and are believed to be separately patentable. Reconsideration and allowance of claims 15-20 are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit

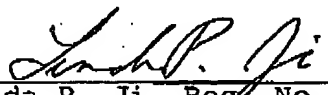
-11-

Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By:


Linda P. Ji, Reg. No. 49,027
Suite 1400 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 339-3312

LPJ:lms